

WHAT IS CLAIMED IS:

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- 1 1. A fiber optic receiver, comprising:
2 an opto-electronic transducer configured to generate an electrical data signal
3 in response to a received optical data signal;
4 an adjustable response preamplifier circuit coupled to the opto-electronic
5 transducer and operable to amplify an electrical data signal generated by the opto-
6 electronic transducer; and
7 a mode selection circuit coupled to an output of the preamplifier circuit and
8 configured to transmit a mode control signal to the preamplifier circuit in response to
9 a received control signal.
- 1 2. The fiber optic receiver of claim 1, wherein the mode selection circuit is
2 configured to transmit the mode control signal to the preamplifier circuit in response
3 to a received data rate control signal.
- 1 3. The fiber optic receiver of claim 1, wherein the mode selection circuit is
2 configured to transmit the mode control signal to the preamplifier circuit in response
3 to a received power mode control signal.
- 1 4. The fiber optic receiver of claim 1, wherein the mode selection circuit is
2 configured to modulate the mode control signal onto a common line coupled
3 between the preamplifier circuit and the post-amplifier circuit.
- 1 5. The fiber optic receiver of claim 4, wherein the mode selection circuit is
2 configured to modulate the mode control signal onto the common line as a single
3 pulse.
- 1 6. The fiber optic receiver of claim 4, wherein the mode selection circuit is
2 configured to modulate the mode control signal onto the common line as a multiple
3 pulse pattern.

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7. The fiber optic receiver of claim 4, wherein the mode selection circuit is configured to modulate the mode control signal onto the common line as a time-varying signal.

8. The fiber optic receiver of claim 1, wherein the preamplifier circuit comprises a mode detection circuit configured to generate a response control signal for adjusting the response of the preamplifier circuit based upon the mode control signal transmitted by the mode selection circuit.

9. The fiber optic receiver of claim 8, wherein the mode detection circuit is configured to detect one or more mode control signal pulses modulated onto a common line coupled between the preamplifier circuit and the mode selection circuit.

10. The fiber optic receiver of claim 9, wherein the mode detection circuit is configured to detect the one or more mode control signal pulses based upon a comparison of a common line voltage with a reference voltage.

11. The fiber optic receiver of claim 8, wherein the mode detection circuit is configured to detect a time-varying mode control signal modulated onto a common line coupled between the preamplifier circuit and the mode selection circuit.

12. The fiber optic receiver of claim 11, wherein the mode detection circuit comprises a frequency detector.

13. The fiber optic receiver of claim 1, wherein the preamplifier circuit is configured to select one of multiple sets of operating parameters based upon the mode control signal transmitted by the mode selection circuit.

14. The fiber optic receiver of claim 13, wherein the preamplifier circuit is configured to adjust one or more bandwidth response parameters in response to a bandwidth mode control signal transmitted by the mode selection circuit.

1 15. The fiber optic receiver of claim 13, wherein the preamplifier circuit is
2 configured to adjust one or more supply current operating parameters in response to
3 a power mode control signal transmitted by the mode selection circuit.

1 16. The fiber optic receiver of claim 1, wherein the mode selection circuit is
2 incorporated within a post-amplifier circuit.

1 17. The fiber optic receiver of claim 1, further comprising a receiver optical
2 sub-assembly (ROSA) comprising a fiber optic connector for coupling to a mating
3 connector of a fiber optic cable.

1 18. The fiber optic receiver of claim 17, wherein the preamplifier circuit is
2 incorporated within the ROSA.

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1 19. The fiber optic receiver of claim 18, wherein the ROSA and the post-
2 amplifier circuit are mounted on a common substrate.

1 20. A fiber optic receiver, comprising:
2 a substrate;
3 a receiver optical sub-assembly (ROSA) mounted on the substrate and
4 comprising a fiber optic connector for coupling to a mating connector of a fiber optic
5 cable;

6 an opto-electronic transducer incorporated within the ROSA and configured to
7 generate an electrical data signal in response to a received optical data signal;

8 an adjustable response preamplifier circuit incorporated within the ROSA,
9 coupled to the opto-electronic transducer, and operable to amplify an electrical data
10 signal generated by the opto-electronic transducer; and

11 a post-amplifier circuit mounted on the substrate, coupled to an output of the
12 preamplifier circuit, and configured to transmit a mode control signal to the
13 preamplifier circuit over one or more common lines coupled between the
14 preamplifier circuit and the post-amplifier circuit in response to a received data rate
15 control signal.

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